

Institution

Emily Carr University
of Art + Design

Principal Researcher

Jonathan Aitken
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Research Field

Health and Welfare

Student Involvement

58 student researchers
5 employed students

Partners & Collaborators

Vancouver Coastal Health

Funding Sources

Vancouver Coastal Health
Natural Sciences and
Engineering Research Council
(NSERC)

Project Location

Vancouver General Hospital

Hand Hygiene for Health

Using Interaction Design to boost compliance.

The Vancouver Coastal Health Authority has made hand sanitization compliance a priority, yet the goal of 100% has not yet been reached. An Emily Carr 3rd year Communication Design class was asked to consider the problem and suggest solutions. Two solutions were selected for implementation: an innovative print-based campaign and an interactive solution.

In partnership with Vancouver Coastal Health, Emily Carr's Health Design Lab launched the Hand Hygiene project. This collaboration was aimed at stimulating a behavior change in the use of hand-sanitizer dispensers, and embed hand sanitizing as part of daily life in the hospital. Using human-centred participatory methodologies, design research for this project involved health care personnel in co-creation workshops, which fostered an empathic design solution. The students were able to gain core insights into the cause of low hand hygiene compliance. The proposed solutions varied widely. VCH selected two projects for implementation, one print-based and one interactive. Prototypes are currently installed at Vancouver General Hospital.

The print-based campaign creates an imaginary "clean zone" throughout the hospital with blue lines taped on the floor with the phrase: "Clean before you cross". This has an interesting psychological effect whereby people stop and think, and often, wash their hands. The campaign was extended to humorous posters and elevator wraps. It is now in hospitals and health care facilities throughout the Vancouver area.

The interactive design reaches users at the point of decision. By installing an Arduino device in a hygiene dispenser, the dispenser is connected to a computer and a large overhead monitor. The act of sterilizing one's hands triggers an amusing "bloop" sound and imposes a graphic of a hand on the monitor. The hand slowly fades and becomes part of a graphic with all the other hands sterilized that day. This transforms the hand-washing experience from being a largely ignored chore to that of an interesting communal art installation. It has been so successful that VCH has asked the Health Design Lab to look at wirelessly connecting multiple units at one entrance to one computer and display. Future prototypes may be able to aggregate hand sanitizing data, using it to provide data visualization to further promote compliance and education. The data could also be used to establish patterns of use and suggest ways to keep compliance high.

This research project had other important outcomes. First, it helped VCH consider a long term problem in a unique manner. The Health Design Lab conducts evidence-based, human-centred design research which led to an innovative and creative design process. VCH has now become an important partner to the school, and we collaborate on many projects. Second, students benefited from seeing how design can be applied to more complex social issues, with no one clear outcome. They learned how to

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conduct ethnographic probes and co-creation workshops with research participants in a real-life project, therefore learning to ground design with evidence. Lastly, the project has implications for industry. With the successful prototyping of the interactive dispenser, VCH would like to roll out the initiative on a much larger scale. This next stage will likely involve another industry partner to manage manufacturing and distribution.



An example from the print campaign.



The installation of the interactive prototype with monitor.